COMPUTATION CENTER

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS

April 30, 1963

Prof. Joshua Lederberg
Department of Genetics
Stanford University
Medical Center
Palo Alto, California

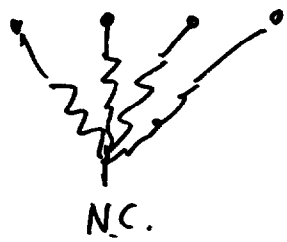
Dear Joshua:

Here are some references on "clumping", etc. My source is mainly Calvin Mooers.

1. V. Giuliano and P. E. Jones
Report CACL-1
CACL-2
Arthur D. Little Co.
35 Acorn Park, Cambridge, Mass.

This is a nice little electrical analogue device in which one connects resistors between associated nodes. Seems cute, but probably oversold.

Say, suppose you take your crossover data, and assign vertices to properties. Then, for each assay, connect a resistor star so:



Maybe, then, if you locate the endpoints and put through a current, the potentials will give the ordering.

2. H. Edmund Stiles
JACM, April 1961, pp. 271.
"Association Factors" between pairs of descriptors.

He computes "association factors" between property pairs.

3. Frank B. Baker, "Latent Class Structure," JACM, October, 1962.

3a. P. F. Lazarsfeld and J. Dudman
RAND Memo RM-455, Part II (1951)

A theory of "Latent Class Structure".

4. "Theory of Clumps": Four reports from

Cambridge (England) Language Research Unit (1960-1961)
Reports ML 138, 139, 140, 144
Proposal N-1064

Papers by R. M. Needham
A. F. Parker-Rhodes

Cambridge Language Research Unit
20 Millington Road, Cambridge, England

5. Report by Gerald Salton, Harvard University, on Hierarchical Models for Automatic Document Retrieval

6. C. N. Mooers
Paper in "Information Processing", UNESCO, Paris, 1959.

7. Rogers and Tanimoto, "A computer program for classifying plants," SCIENCE, October 21, 1960, pp. 1115-1118.

8. Swanson
Science, October 21, 1960, p. 1099.

9. Ledley and Lusted
Science, July 3, 1959, p. 9.

Sincerely,

Marvin

Marvin Minsky

MM/s

P.S. I expect to be out there to a meeting on May 10.

P.P.S. I recall some recent work in this area by Harold Borko of SDC, Santa Monica.